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REPORT ON ANALYSES OF PREPARATIONS UNDER THE PURE FOOD AND DRUGS LAW.

By L. E. SAYRE, University of Kansas, Lawrence.

IT IS well known, perhaps, that the work of drug analysis under the direction of the Board of Health is located at the University of Kansas. It has been thought desirable to make a few remarks at this time as to the progress of the work and some of the problems with which we have to deal.

A separate laboratory is set apart for the investigations and analyses, and one person, Mr. Adolph Ziefele, devotes the major part of his time to the work. Some of the investigations, which require research for which the regular analyst has not the time to devote, is taken charge of by Mr. L. D. Havenhill, who has a special research room for his purposes. Mr. Havenhill will in the future do a considerable amount of investigational work, which will bear directly upon the question of standards. It is well known that Mr. Havenhill has spent a year under the United States Government in Washington and in New York at the appraisers' stores.

The microscopic work, which is one that requires a specially trained man, is taken charge of by Mr. Chas. M. Sterling. But to Mr. Ziefele comes the burden of the mass of analyses that is pouring into the laboratory weekly. The difficulties that he encounters are very numerous, because of the fact that he has such a great variety of materials to deal with, and this variety comes in every collection sent in by the inspectors. If it were possible to take one particular article and run an hundred analyses on this same article, it is easy to see that this would be very much simpler than if the hundred articles should contain from fifty to sixty different kinds of analyses, each of which requires different solutions and reagents to be specially prepared.

One of the difficulties which we have recently encountered relates to the subject of deterioration. This has become a very provoking problem. The question has arisen, What shall be considered as deteriorated; what chemical tests and what chemical results will prove that a substance is deteriorated?

The difficulty appears to be to determine what would be considered legally as "deteriorated"—what terms should determine this condition. Some regulation or definition to meet the case might be suggested, such as the following:

By deterioration is meant, first, a deviation from the professed standard.

The professed standard is regarded as that condition represented by the preparation when it is freshly prepared. Such deviation from the professed standard as above referred to may be determined by :

(a) Microscopical examination. If a medicinal liquid shall be found by microscopical examination to have become so decomposed that bacterial germs and germs of decomposition are found therein, it shall be considered deteriorated.

(b) Chemical examination. If by chemical examination any of the professed ingredients, such as pepsin, pancreatin, or any of the other ferments, be found absolutely inactive, or if a cocoa preparation give no reaction, showing the absence of the alkaloid, etc., such preparation shall be considered deteriorated.

(c) Macroscopical, etc. If a preparation differ in appearance materially from that freshly prepared. If, for example, there have developed a precipitate evidently through aging of a liquid, or if it should from odor, taste or other physical tests show evidence of impairment or decomposition, any of these conditions shall be taken as ground for deeming the article deteriorated. Any deteriorated drug products offered for sale shall be liable to the application of regulation 30 of the food and drugs law.

THE LACTOSE-BILE TEST FOR THE COLON BACILLUS.

By W. B. WILSON, Ottawa University, Ottawa.

THE discovery of *Bacillus coli* in 1885 by Escherich, followed by the proof that this micro-organism is a normal inhabitant of the intestines of mammals, especially of man, has led bacteriologists to pay special attention to its isolation. Since *B. coli* is always found in sewage and polluted water, and since it is comparatively easy of detection, this germ is taken as a most valuable index of the sanitary condition of potable waters.

In presumptive tests, the common practice has been to employ a dextrose broth made by adding two per cent. of dextrose to the common French bouillon in the ordinary fermentative tube. The bacterium attacks the dextrose, liberating carbon dioxide and hydrogen, which is taken as indicative of the presence of *B. coli*, or at any rate a sugar-loving, gas-forming bacterium.

Unfortunately this test is not always reliable, especially when negative results are obtained owing to the interference of other